

Amendments to the Claims

1-20. (Cancelled)

21. (Currently amended) A method for production of salt from sea brine or subsoil brine with reduced calcium ion impurities, by removing calcium from the sea brine or subsoil brine, comprising (i) culturing isolating marine cyanobacteria obtained in pure form from hyper-saline habitat and culturing the isolated marine cyanobacteria in brine, (ii) inoculating the resultant cyanobacterial culture to concentrated raw brine for uptake of calcium ions, (iii) removing the cyanobacteria from the raw brine and immersing the cyanobacteria in dilute brine to ooze out accumulated calcium in the resultant cyanobacterial mass, (iv) recycling the cyanobacteria in a fresh batch of concentrated raw brine, (v) evaporating the treated raw brine up to a density of 25.5 °Be', (vi) charging the resultant brine into a crystallizer and allowing salt to be produced up to a density of 29 °Be', wherein removal of calcium ions by cyanobacteria results in salt having reduced calcium ion impurities.

22. (Currently amended) The method as claimed in claim 21, wherein the marine cyanobacteria are obtained isolated from hyper-saline environments in the west seacoast of India, and belong to the class of *Cyanophyceae Cyanophyceae*.

23. (Currently amended) The method as claimed in claim 21, wherein the marine cyanobacteria are from the families family of *Oscillatoriaceae*, *Nostocaceae* and *Chroococcaceae*.

24. (Previously presented) The method as claimed in claim 21, wherein the marine cyanobacteria are selected from the group consisting of *Lyngbya aestuarii* SM-1, *Oscillatoria* sp., *Spirulina* sp., *Anabaena* sp. and *Synechocystis* sp..

25. (Currently amended) The method as claimed in claim 24, wherein the marine cyanobacteria are selected from the group consisting of (1) *Lyngbya aestuariai aestuarii* SM-1 (ATCC PTA-4602) and (2) the *Consortium* ATCC PTA-4603.

26. (Currently amended) The method as claimed in any one of claims 21-23, wherein the marine cyanobacteria are used cultured either singly or in the form of a consortium.

27. (Previously presented) The method as claimed in any one of claims 21-23, wherein the marine cyanobacteria are isolated in pure form using a serial dilution method.

28. (Currently amended) The method as claimed in claim 27, wherein the isolated marine cyanobacteria are cultured in brine without any added nutrients.

29. (Currently amended) The method as claimed in claim 28, wherein the isolated marine cyanobacteria are cultured in brine of 3-16 °Be' density for a period of 36-72 hours.

30. (Previously presented) The method as claimed in claim 21, wherein the brine resulting from (ii) has a density in the range of 18-25 °Be' and a major portion of calcium ions impurity in the brine is converted to gypsum ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) during concentration of the brine beyond 14 °Be', thereby minimizing the load on the marine cyanobacteria and simultaneously minimizing the volume of brine.

31. (Previously presented) The method as claimed in claim 30, wherein the brine resulting from (ii) has a density of 20-24 °Be'.

32. (Previously presented) The method as claimed in claim 21, wherein the fresh wet weight of cyanobacteria inoculated into the raw concentrated brine is in the range of 1-10 g/L.

33. (Previously presented) The method as claimed in claim 32, wherein the cyanobacteria is in contact with the raw concentrated brine for a contact time of 6-48 hours.

34. (Currently amended) The method as claimed in claim 21, wherein the cyanobacteria removes 1-100% of calcium ions in the concentrated raw brine.

35. (Previously presented) The method as claimed in claim 34, wherein 30-70% of calcium ions is removed.

36. (Currently amended) The method as claimed in claim 21, wherein in (ii) the cyanobacteria ~~after substantial uptake of calcium ions from~~ are exposed to the concentrated raw brine is for a time effective to remove calcium ions from the concentrated raw brine, and in (iii) the cyanobacteria are exposed to dilute brine of density in the range of 3-15 °Be' for a time effective to ~~ooze out a substantial amount of remove~~ the accumulated calcium ions from the resultant cyanobacterial mass before the cyanobacteria is are recycled into a fresh batch of concentrated raw brine.

37. (Previously presented) The method as claimed in claim 36, wherein exposure to the dilute brine is conducted for 1-2 hours.

38. (Previously presented) The method as claimed in claim 21, that is implemented in solar salt works.